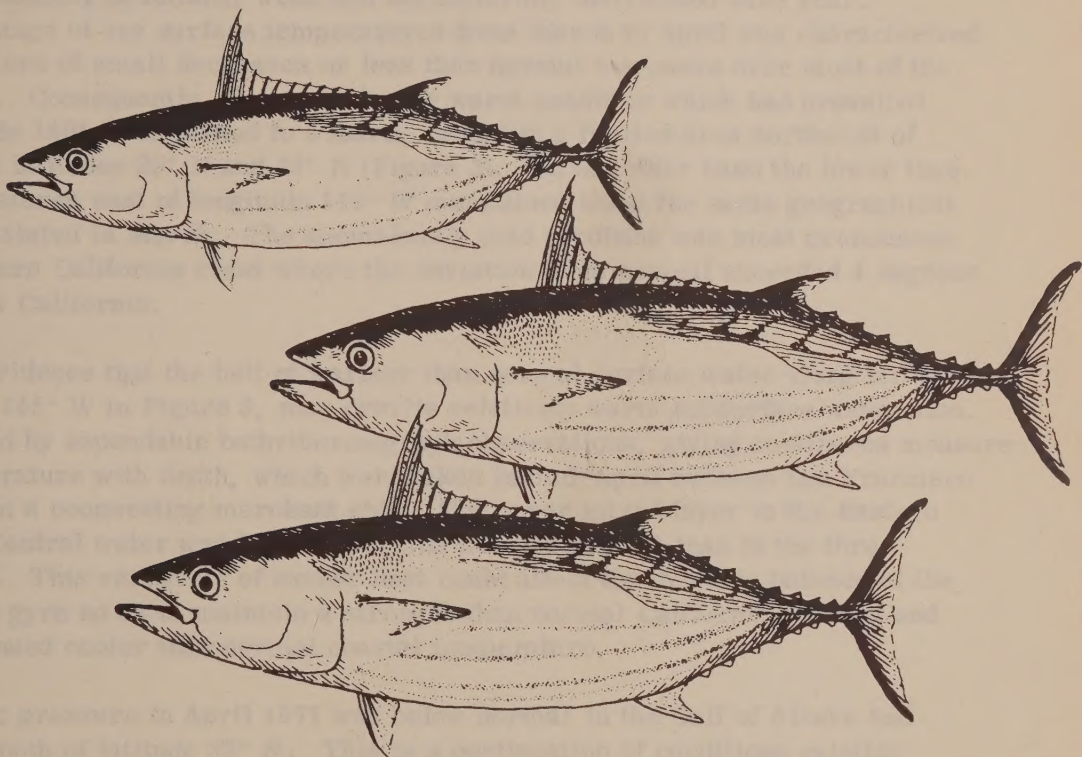




APRIL 1971

FISHING INFORMATION

**UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION**



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NARRATIVE DESCRIPTION OF OCEAN TEMPERATURE CONDITIONS

Northeastern Pacific

Climatologically, April marks the time of year when heating processes gain ascendancy over cooling processes in the surface waters of the northeast Pacific. The warming tendency is initially weak and not uniformly distributed each year. In 1971, the change of sea surface temperatures from March to April was characterized by a mixed pattern of small decreases or less than normal increases over most of the oceanic region. Consequently, the anomalously warm condition which had prevailed west of longitude 140° W continued to weaken, except in a limited area northwest of Hawaii between latitudes 25° N and 35° N (Figure 3). On the other hand the lower than normal temperatures east of longitude 140° W maintained about the same geographical coverage that existed in March. The anomalously cold condition was most pronounced along the southern California coast where the deviation from normal exceeded 4 degrees (F) and off Baja California.

There is evidence that the belt of warmer than normal surface water along latitude 30° N, west of 145° W in Figure 3, may overlie relatively warm subsurface water also. This is revealed by expendable bathythermograph observations, giving continuous measurements of temperature with depth, which were taken in mid-April between San Francisco and Hawaii from a cooperating merchant ship. The upper mixed layer in the Eastern North Pacific Central water was both deeper and warmer in 1971 than in the three previous years. This reservoir of excess heat could affect the dynamic balance of the eastern Pacific gyre so as to maintain a stronger than normal California Current and therefore continued cooler than normal coastal temperature.

Barometric pressure in April 1971 was below normal in the Gulf of Alaska and above normal south of latitude 35° N. This is a continuation of conditions existing last month and results in stronger than normal westerly winds between latitude 35° N and 55° N, but has little direct effect on surface temperature because the winds are nearly parallel to the isotherms.

Eastern Tropical Pacific

Sea water temperatures along the Equator from longitudes 110° W to 140° W increased up to 4 degrees (F) in April 1971 from the previous month, sharply reducing the anomalously cold condition which had prevailed throughout the winter (Figures 5 and 6). The negative deviations of temperature from the long term mean along the coast north of Acapulco and offshore west of Costa Rica also decreased in magnitude.

Staff, Fishery-Oceanography Program
R. Michael Laurs, Leader

SEA SURFACE TEMPERATURE CHARTS, PACIFIC OCEAN

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National Weather Service, San Diego, California
National Ocean Survey, Pacific Marine Center, Seattle,
Washington
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Monterey, California

Charts

Figure 1. -- Mean sea surface temperature, eastern north Pacific Ocean. Squares show temperatures at weather ship stations. Numerals on shore are temperatures at coastal and lightship stations.

Figure 2. -- Mean sea surface temperature chart, western north Pacific Ocean.

Figure 3. -- Deviation of sea surface temperatures, eastern north Pacific Ocean from long term charts of H.O. 225. Hatched areas are colder in 1971.

Figure 4. -- Deviation of sea surface temperatures, eastern north Pacific Ocean from those of April 1970. Hatched areas are colder in 1971.

Figure 5. -- Mean sea surface temperature, eastern tropical Pacific Ocean. Numerals on shore are temperatures at coastal stations.

Figure 6. -- Deviation of sea surface temperatures, eastern tropical Pacific Ocean from long term charts of H.O. 225 and NAVOCEANO sp-123. Shaded areas are colder in 1971.

Figure 7. -- Deviation of sea surface temperatures, eastern tropical Pacific Ocean from those of April 1970. Shaded areas are colder in 1971.

Figure 8. -- 11-year mean (1961-1971) observed sea level values of barometric pressure (millibars), resultant wind direction (degrees true), resultant wind speed (knots), and average wind speed (knots) regardless of direction.

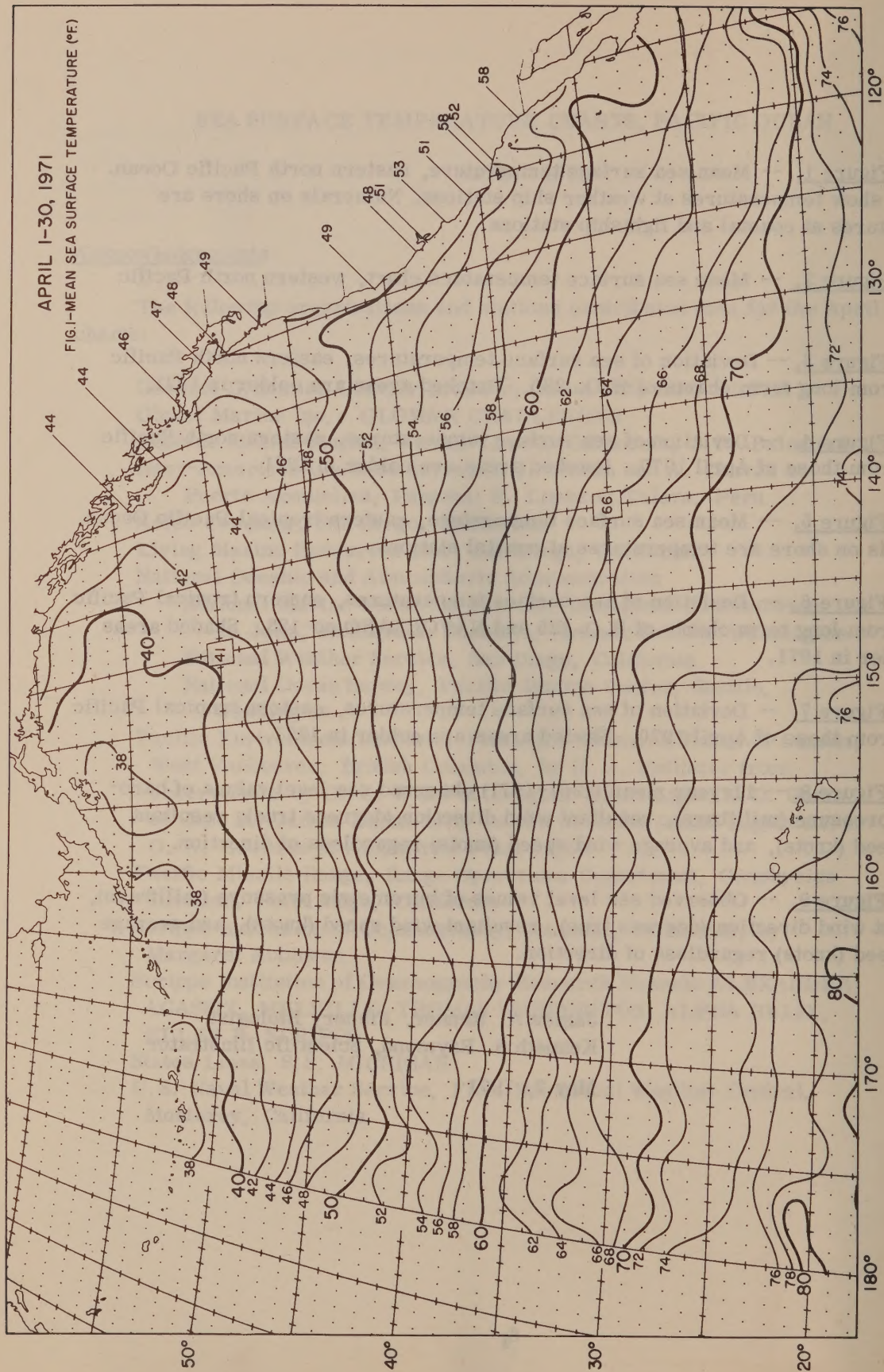
Figure 9. -- Observed sea level values of barometric pressure (millibars), resultant wind direction (degrees true), resultant wind speed (knots), and average wind speed (knots) regardless of direction.

James A. Renner, Fishery Biologist
Kenneth S. Raymond, Scientific Illustrator

May 7, 1971

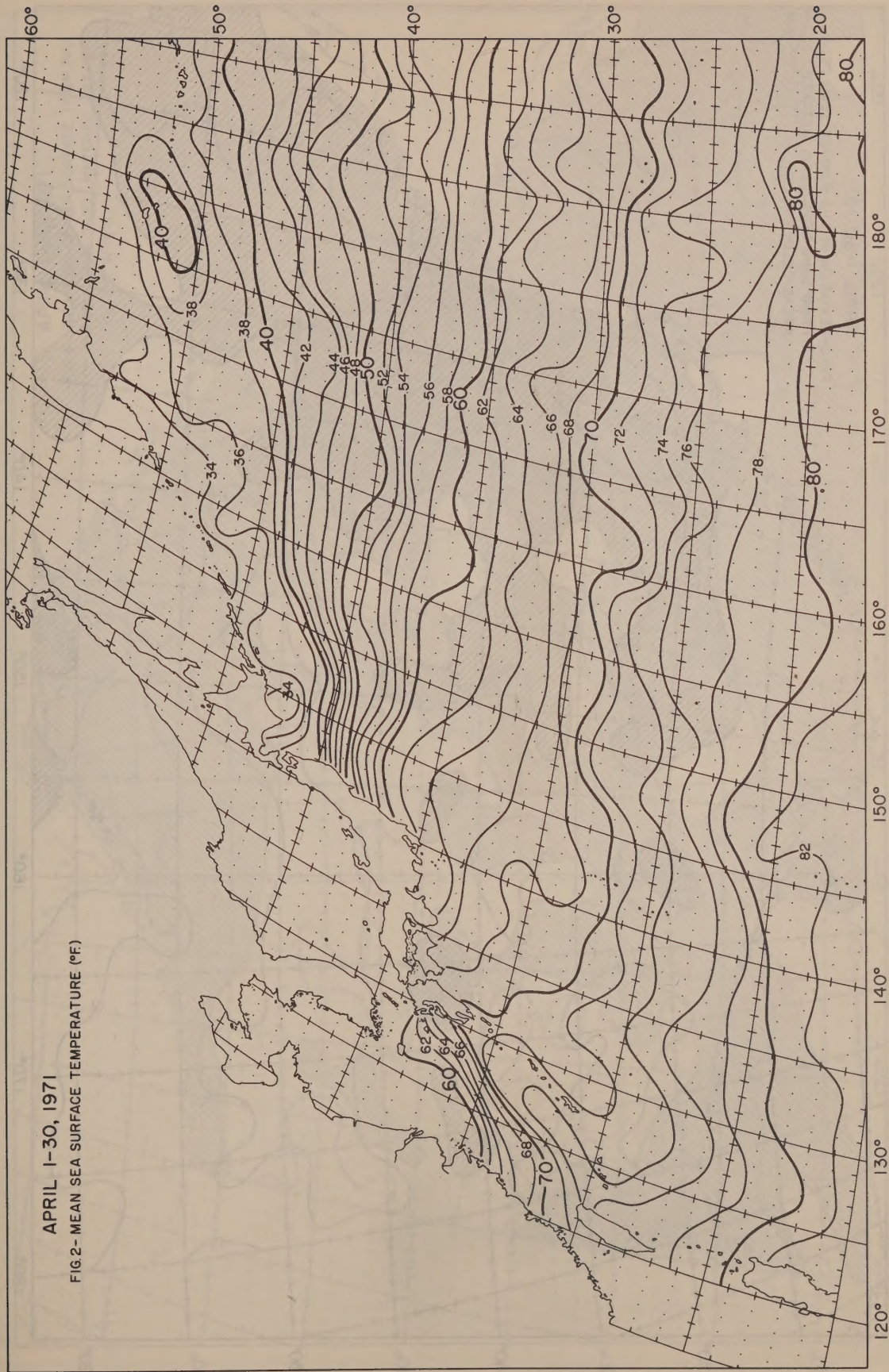
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FIG. 1-MEAN SEA SURFACE TEMPERATURE (°F)



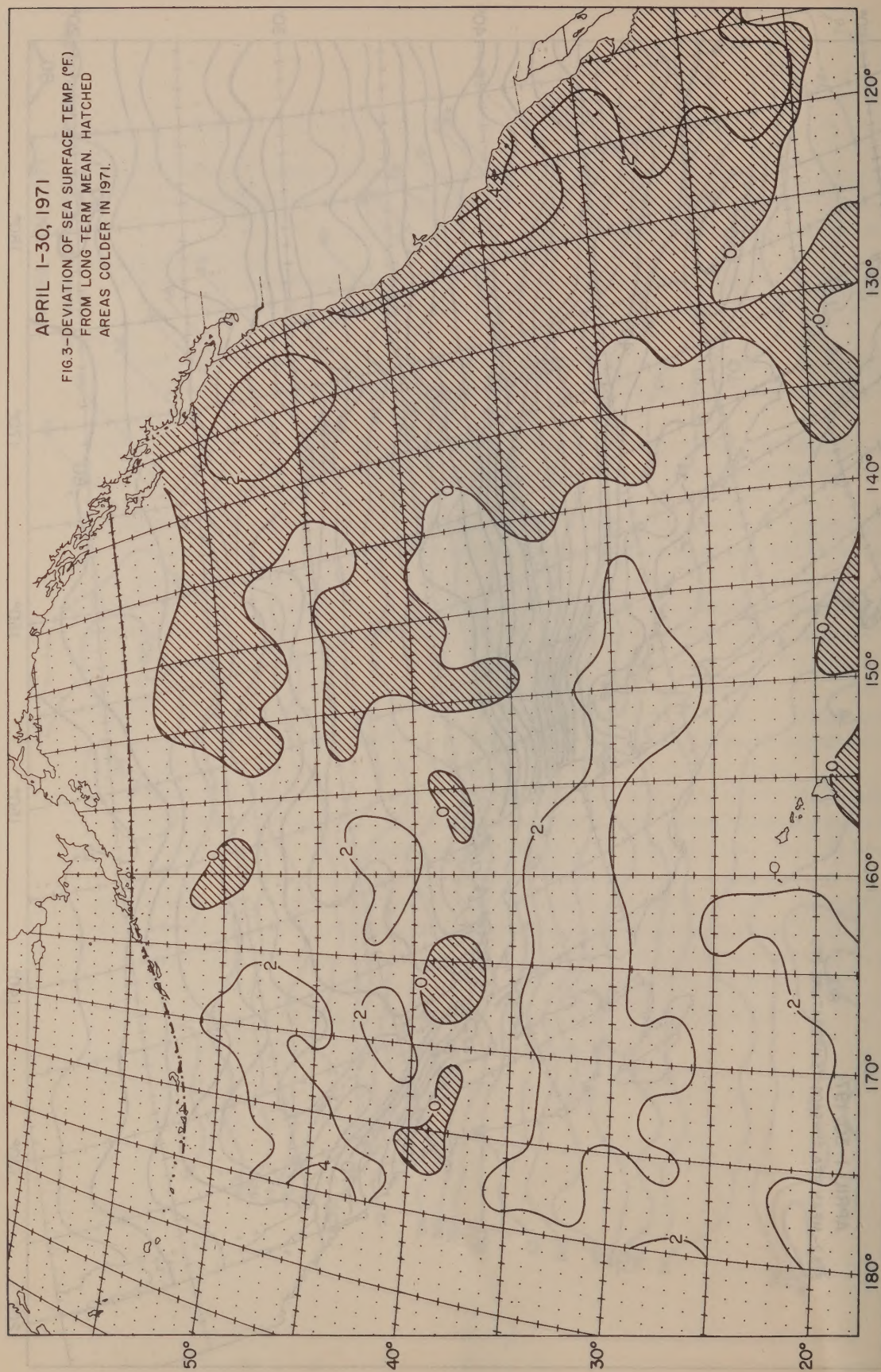
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FIG.2- MEAN SEA SURFACE TEMPERATURE (°F)



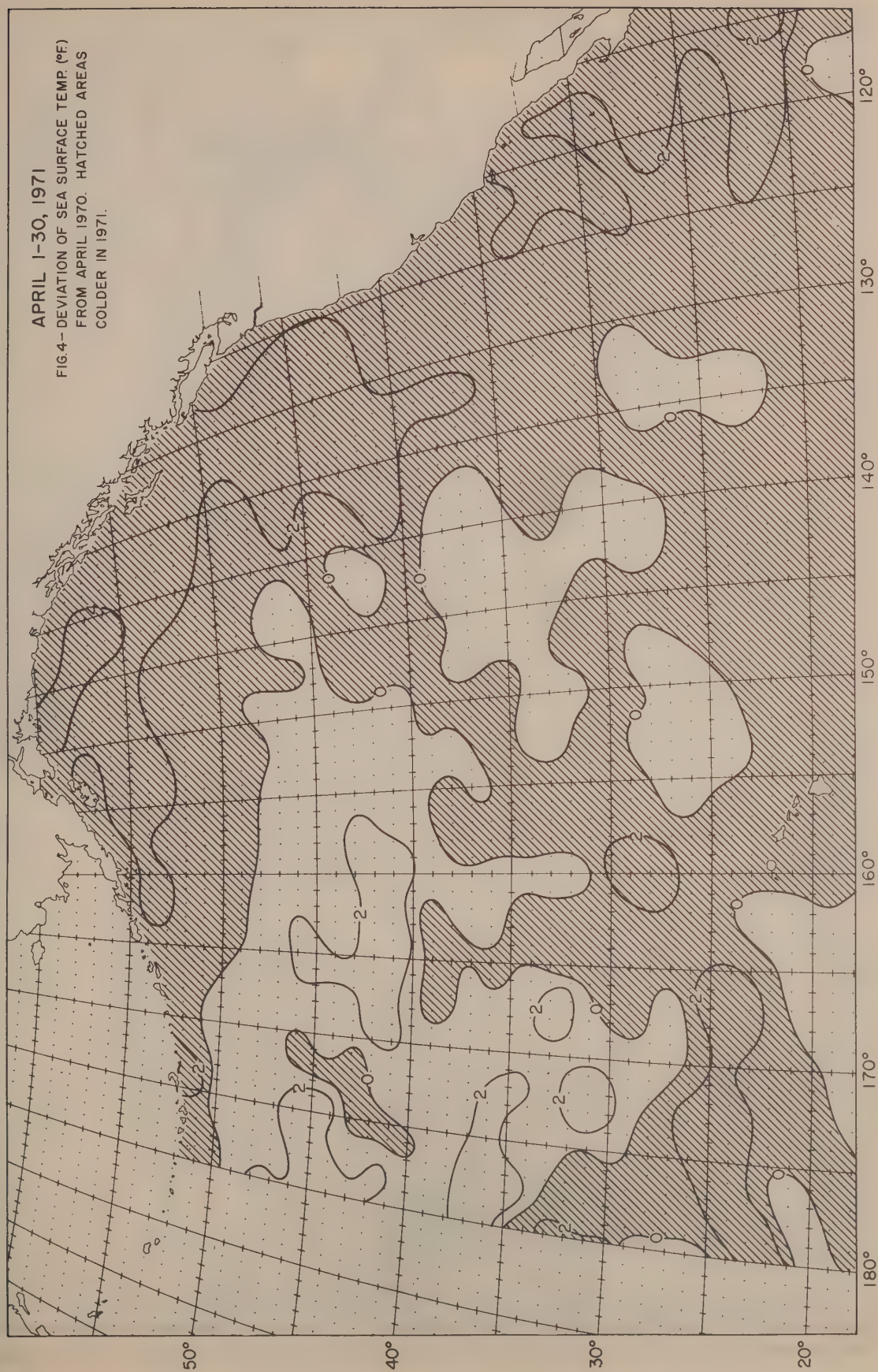
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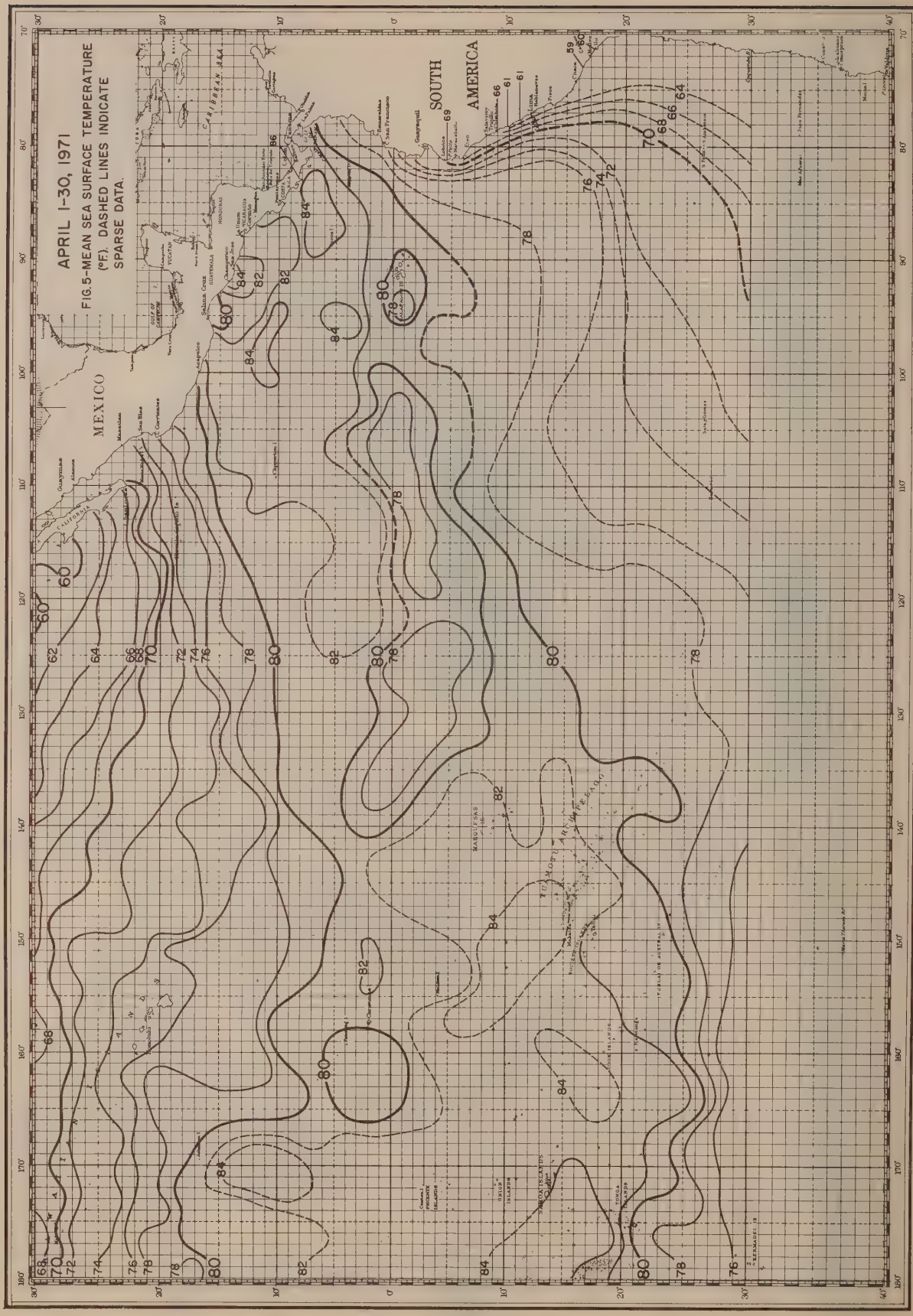
FIG. 3-DEVIATION OF SEA SURFACE TEMP. (°F)
FROM LONG TERM MEAN. HATCHED
AREAS COLDER IN 1971.



APRIL 1-30, 1971

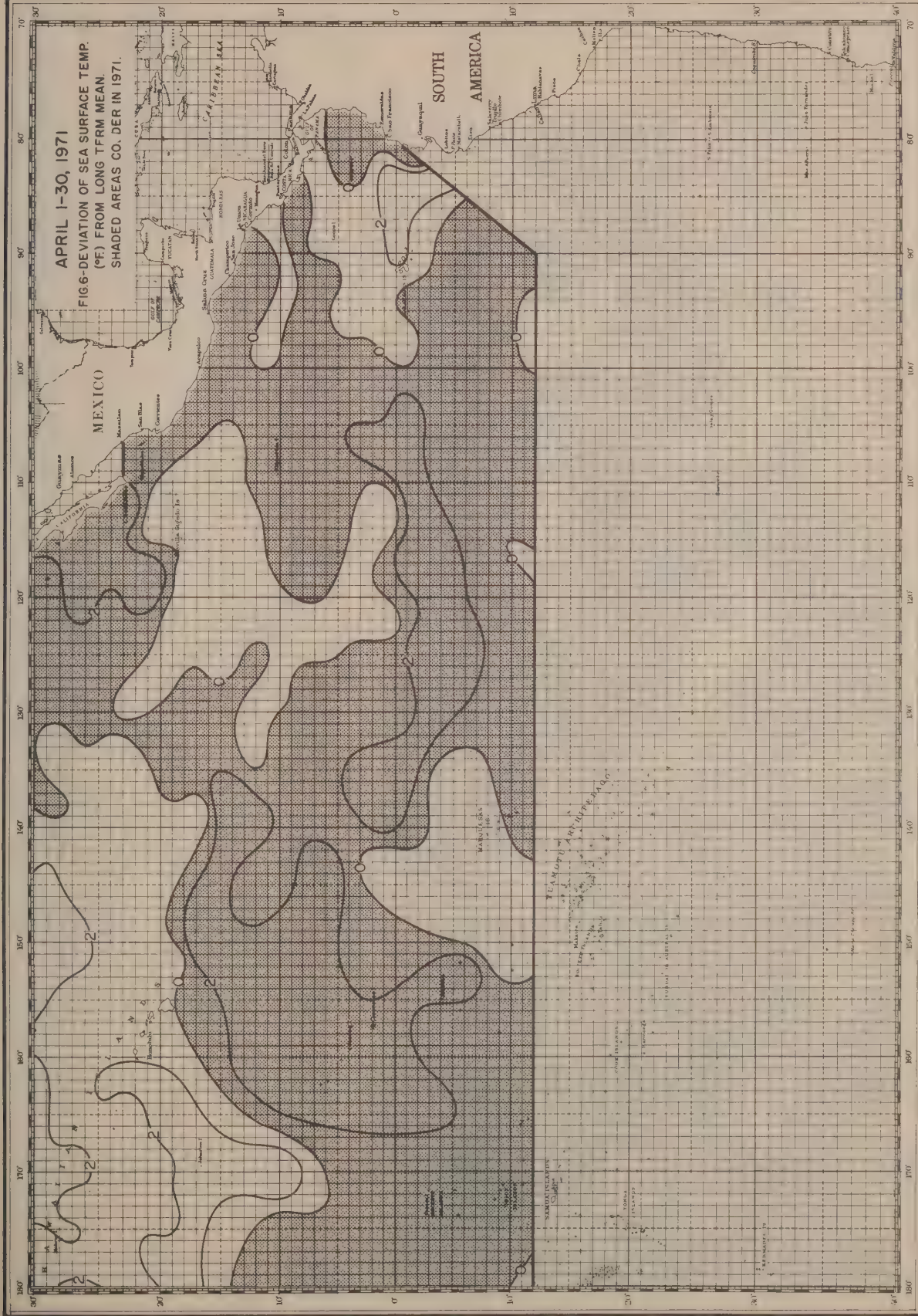
FIG. 4—DEVIATION OF SEA SURFACE TEMP. (°F)
FROM APRIL 1970. HATCHED AREAS
COLDER IN 1971.

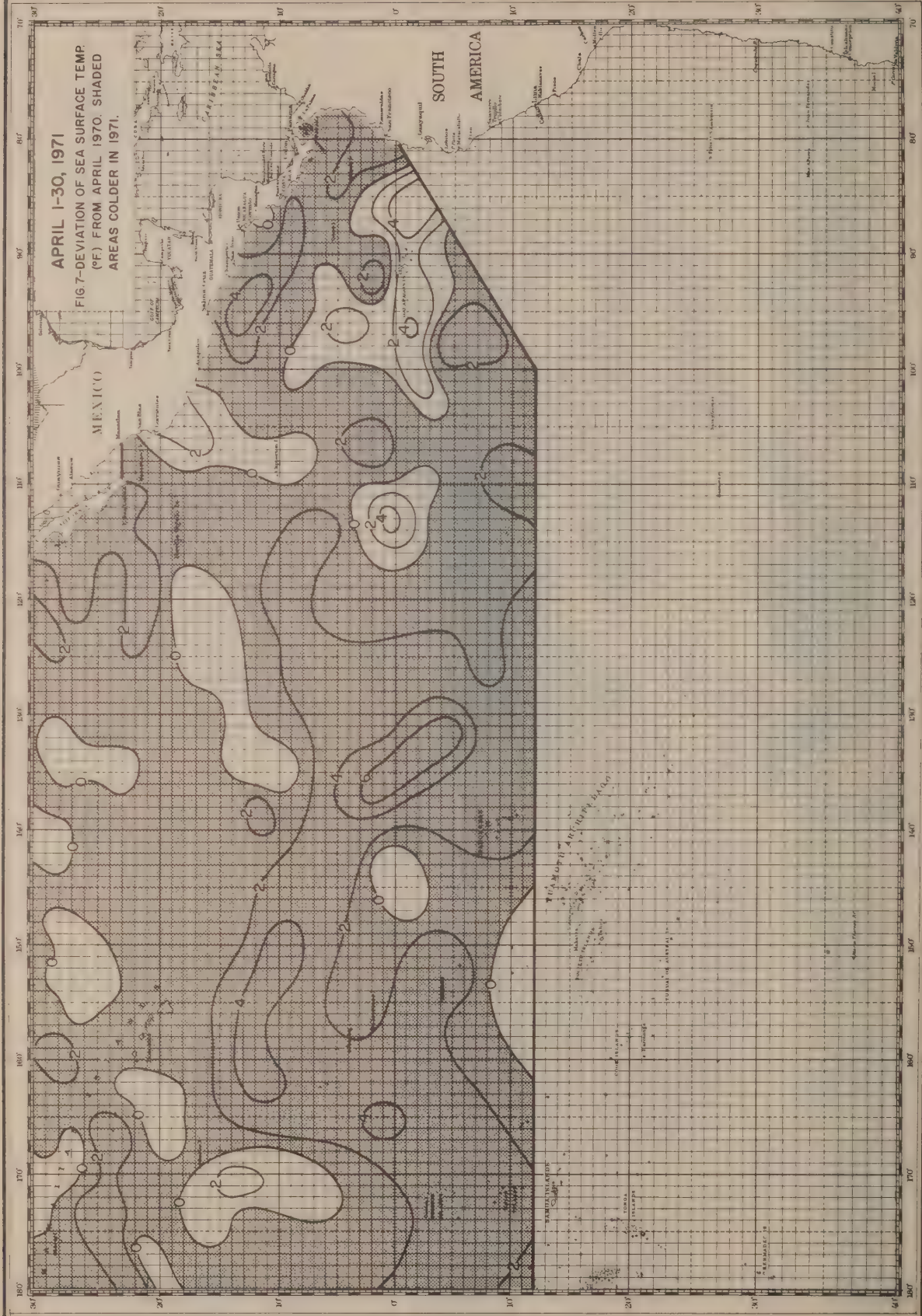




APRIL 1-30, 1971

FIG. 6-DEVIATION OF SEA SURFACE TEMP.
(°F) FROM LONG TERM MEAN.
SHADED AREAS CO. DER IN 1971.





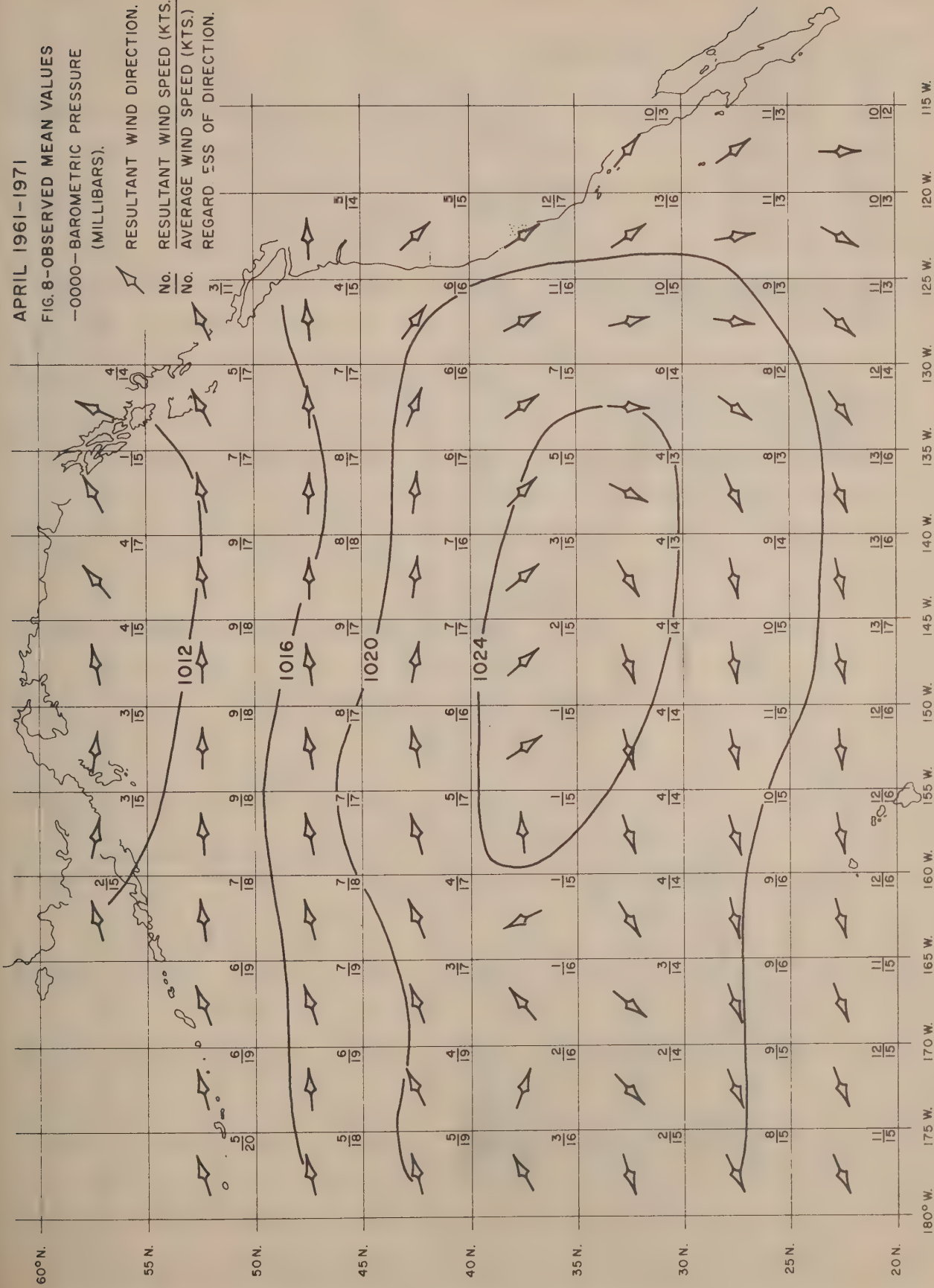
APRIL 1961-1971

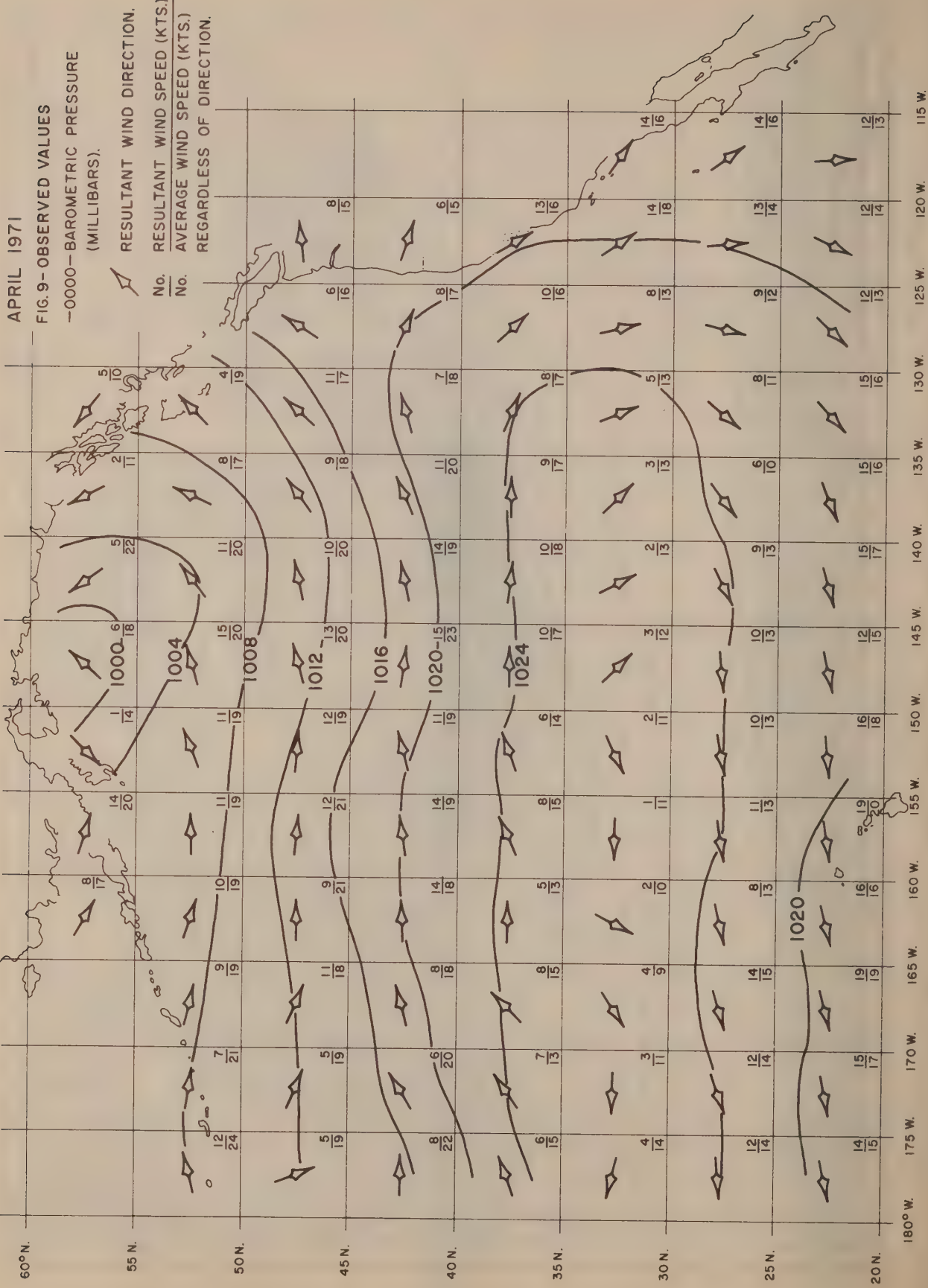
FIG. 8-OBSERVED MEAN VALUES

-0000-BAROMETRIC PRESSURE
(MILLIBARS).

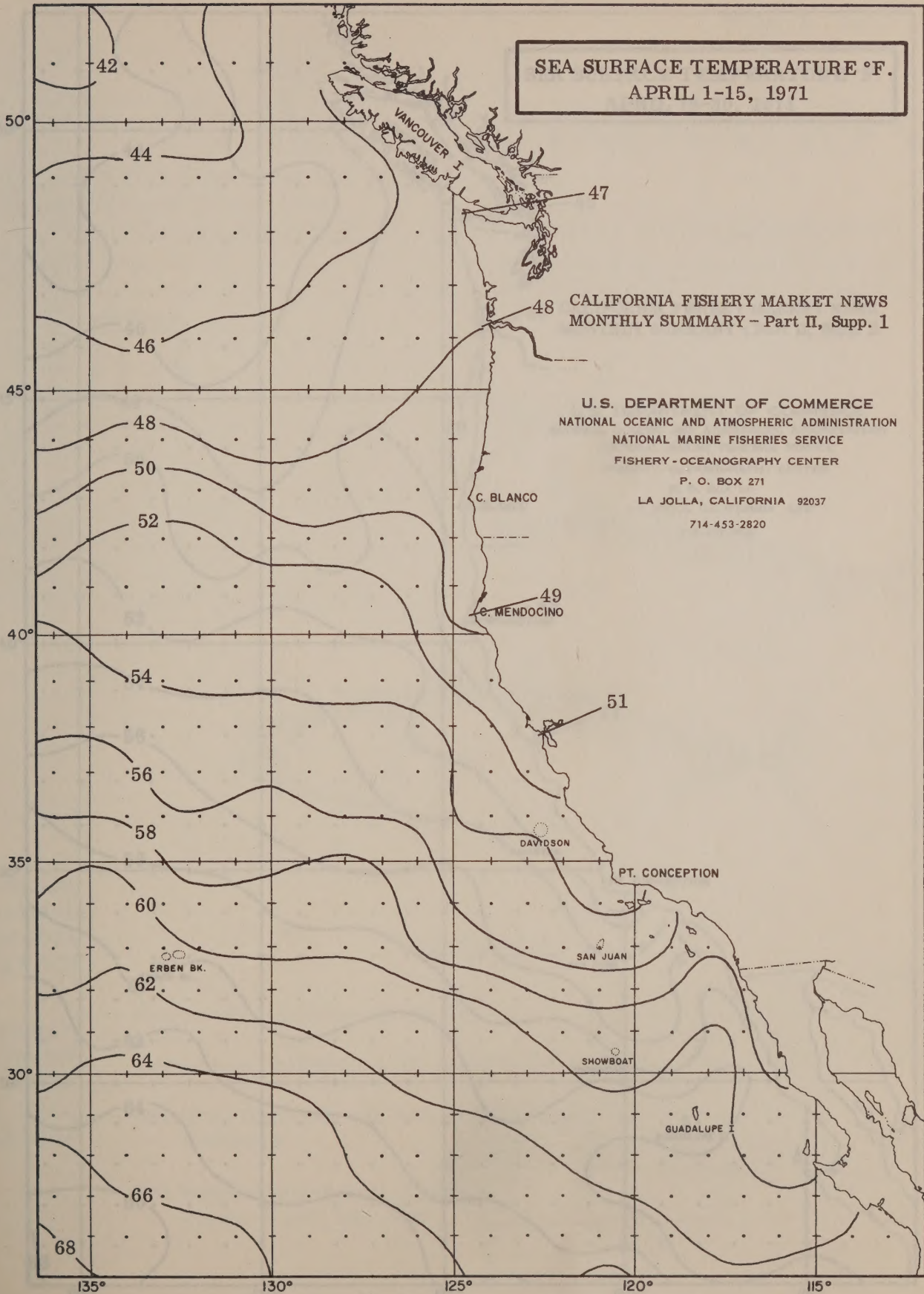
RESULTANT WIND DIRECTION.

No. No.
RESULTANT WIND SPEED (KTS.).
AVERAGE WIND SPEED (KTS.)
REGARD ESS OF DIRECTION.





SEA SURFACE TEMPERATURE °F.
APRIL 1-15, 1971



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SEA SURFACE TEMPERATURE °F.

APRIL 16-30, 1971

